MODIS TECHNICAL TEAM MEETING

April 22, 1999

Vince Salomonson chaired the MODIS Technical Team meeting. Present were Eric Vermote, Ed Masuoka, Barbara Conboy, Al Fleig, Dorothy Hall, Bill Barnes, Wayne Esaias, Susan Hunter, Bruce Guenther, Dan Tarpley, Steve Kempler, and David Herring, with Annette Kornblum taking the minutes.

1.0 SCHEDULE OF EVENTS

Next MODIS Science Team Meeting (Greenbelt, MD)	May 4–5, 1999 Greenbelt Marriott Hotel
PI Processing Meeting (GSFC)	May 12, 1999, 9:30 a.m. Building 28, Room E210
SAFARI Validation / Coordination Meeting (Boulder, CO)	May 12–14, 1999
Mini-SWAMP Meeting at EOS-IWG (Vail, CO)	June 15–17, 1999
SAFARI Program Implementation Meeting (Gabarone, Botswana)	July 26–30, 1999

2.0 MINUTES OF THE MEETING

2.1 DAAC Brochure on MODIS

Salomonson introduced Susan Hunter who said that educators, application users, and others will benefit from a chart giving details on MODIS' data products. Salomonson distributed a review draft and asked for feedback on the DAAC brochure on MODIS. The team discussed the table of contents. Salomonson recommended changing the "temporal resolution" column from "five minutes" to "daily."

2.2 MST Meeting Agenda

Bob Murphy completed the strawman agenda for the May 4–5 meeting (see the final agenda at: http://modarch.gsfc.nasa.gov/MODIS/SCITEAM/199905/agenda.html). Salomonson said there will be a closed-door session on the second day. Salomonson said he sent out the draft agenda to the team for feedback and urged the team to present a broad outline of the points they planned to cover. Conboy reported that Dolly Perkins

would be unavailable for the meeting.

Salomonson suggested holding a Science Team Meeting at the launch site just before launch. He noted that Landsat 7 did that to their benefit. He said that would give every MODIS PI an opportunity to present their science goals and objectives.

2.3 MODIS Project Discussions

Barnes reported that there is an issue that should be discussed offline in Salomonson's office regarding MODIS system tests. The team is hung up on one test. Barnes said that he had given up on the protoflight model and wanted to discuss flight model-1. Barnes indicated there had been some disagreement among the team and that they needed Salomonson to resolve the issue.

Salomonson said he heard that Terra arrived safely in California, where Murphy watched the Landsat 7 launch from a nearby golf course. Salomonson enthused that it was a perfect day for the Landsat 7 launch and that he hopes the weather is as good for the July 28 Terra launch. Barnes said it launched at 11: 32 a.m. local time to fly within formation with Terra and EO-1. Barnes said that Landsat 7 came out with an image in 3 days, whereas it will take roughly 34 days after launch before the first image is produced from Terra. Although Terra can do it faster, the need to open aperture doors and take an image and then close the doors to do testing is problematic.

Guenther said an approach for a very early picture from MODIS would be to open the nadir aperture door (NAD) as early as 18 days after launch. Such an approach would invalidate the MCST plans for testing the onboard calibration devices for sensitivity to Earth-shine through the NAD. Salomonson said the prudent thing is to do what is technically right and prudent, and to not open the NAD early.

2.4 GDAAC Reports

Kempler reviewed GDAAC Notes for 4/22/99 (Attachment 1). He described the End-to-End (E-T-E) test underway today (April 22), which he said should generate data by 10 p.m. tonight. The three activities under scrutiny are: (1) Level 1 data previously processed that was sent to MODAPS; (2) Manual operations running PGE's in the command line with processing occurring within 2 hours of receipt of Level 0 data, and; (3) what should be a real success story is the automated operations system, but they are having problems getting data from EDOS and processing them to Level 1 to send to MODAPS. They are doing backup ops and sending Level 1 data to MODAPS and expect to deliver the data on April 23 if everything goes according to plan.

Kempler said testing will continue and they will keep data moving through. Guenther indicated he needs information to update quality assurance flags. Salomonson said that when we get to launch, we should keep up with the data flow by using new algorithms that are more efficient.

Kempler said that integrated SSIT is being done and all PGEs are working. A discussion was held about viewing images for direct broadcast. Guenther expressed concern about bow-tie effects at the MODIS scan edges. Some two or three Cape Cods could be seen for some orbits in images unless quick reprocessing is done to eliminate this effect.

2.5 SDST Reports

Masuoka reviewed Launch Ready PGE Status (Attachment 2). Regarding tests of the PGEs, Masuoka reported that witnesses from ECS are watching the process. Masuoka said that earlier there was a problem reported with the Level 1b data from the N-Day test. He said there wasn't really a problem and that those data were checked out by MCST. SDST has taken ocean color data and put them into Level 1b readers. Those data are now in MODAPS and are ready to go.

Regarding PGE03, SDST ran down bugs in metadata routines and found that there were some modification effects when the software read the files. The PGE03 is being sent back to the GDAAC now. There is a patch to PGE01 to fix the metadata and geolocation problems. Although the target date for completion is May 19, 1999, these patches can be ready earlier, if needed. Masuoka said his team is still working some problems on geolocation control points.

Salomonson asked about the snow and sea ice data products. Masuoka said the new Level 1b readers are being integrated. Hall said her team is delivering the CMG test tomorrow.

Regarding the MODIS E-T-E test, Masuoka said SDST is working on some bugs now. SDST received pre-pushed data from orbits 4-6 and 8-10. On orbits 4-6, MOD03 is missing. Without geolocation, SDST doesn't process the data, but uses the orbit number at Level 1b to give geolocation and surface reflectance. They haven't run this process because geolocation data are missing for the first 2 hours. In orbits 8 through 10, there were holes in products received. Out of 24 granules, one came with a problem in the delivery notice and five others had a bugs in the extractor file, which SDST is trying to figure out. Out of two orbits, SDST produced a piece at the bottom and can do the rest when they get geolocation information. They haven't made as much as they would like and will go back and get data from orbits 2-4 that they will try to process on April 23. (See Attachment 3: Granule Image for 1997 224.)

Esaias asked Masuoka why he gets errors for granules that he is not supposed to have. Masuoka replied that when they clean out previous production files, error spots remain until they get overwritten on the next reprocess.

2.6 Ocean Group Reports

Esaias said his group is making progress on its ocean data products and he showed samples of all ocean color products. Salomonson said he always thinks of Miami as a

major entity of the MODIS Team. Should Miami provide a status report at the Science Team Meeting? Esaias replied that their input would be useful and said someone should ask Murphy about putting the issue on the agenda. Esaias said Wisconsin's role is analogous and should also be included. The Ocean Group is counting on MODAPS and Miami to pull them through.

Esaias showed sample products from SeaWiFS, including water leaving radiance, CZCS pigments, chlorophyll, Mark Abbott's florescence line height, coccolithophores, Kendall Carder's absorptions and gelbstoff, and a 36-km resolution chlorophyll product. Esaias has 4-km resolution maps as well as those at 1-degree resolution. After they were converted into MODIS Level 1b format and processed through MODIS code at Miami, they were sent to SDST to be incorporated into MODAPS.

Salomonson asked what MODIS will show that SeaWiFS won't. Esaias replied that the fluorescence and coccoliths algorithms provide very different total absorption measurements and *in situ* properties are all new. Guenther added that SeaWiFS won't have the same capability that can also be found in the atmosphere products that MODIS produces. Esaias said the differences are not necessarily subtle and that atmospheric effects are giving the SeaWiFS team a big headache.

Esaias showed new net primary productivity for oceans that can be found online.

2.7 MODLAND Reports

Vermote reported that N-day test processing is now done. He said the topic was reviewed at the PI Processing meeting and he was still looking for an opportunity to test the 8-day product. Masuoka said PGEs are under the baseline in some cases and slightly above in others. Overall, within the discipline, things are fitting okay. Vermote said the last day (224) got pretty much of the Level 2g (95% of product) data successfully. Masuoka said real-time feeds are important for us. Problems surface when there are several hops. Next up is the X-day test, which will call for new synthetic data to test. Vermote will encourage continuous testing with the GDAAC during the X-day test. Masuoka said all the hardware are put together for that test.

2.8 MAST Reports

Salomonson said he will accept NOAA's/Helen Woods' suggested procedure for quick access to MODIS data via the "bent pipe." When he said he wants someone to represent MODIS on the review board (product oversight board), Esaias volunteered to participate in the oversight.